

SANsurfer FC HBA Manager

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Table of Contents

- [1 Package Contents](#)
- [2 Requirements](#)
 - [2.1 Hardware Requirements](#)
 - [2.2 Software Requirements](#)
- [3 OS Support](#)
- [4 Supported Features](#)
- [5 Using SANsurfer FC HBA Manager](#)
 - [5.1 Installing SANsurfer FC HBA Manager](#)
 - [5.2 Starting SANsurfer FC HBA Manager](#)
 - [5.3 Removing SANsurfer FC HBA Manager](#)
- [6 Additional Notes](#)
 - [6.1 General \(Applies to All Operating Systems\)](#)
 - [6.2 Windows](#)
 - [6.3 Linux](#)
 - [6.4 Solaris](#)
 - [6.5 NetWare](#)
 - [6.6 Mac OS X](#)
 - [6.7 VMware ESX](#)
- [7 Known Issues and Workarounds](#)
- [8 Contacting Support](#)

1 Package Contents

SANsurfer FC HBA Manager installation packages are available for the following supported OS platforms:

File Name	Description
standalone_sansurfer5.0.1bnn_windows_install.exe	All supported Windows platforms
standalone_sansurfer5.0.1bnn_solaris_install.bin.gz	Solaris SPARC
standalone_sansurfer5.0.1bnn_solaris_install_x86.bin.gz	Solaris x86
standalone_sansurfer5.0.1bnn_linux_install.bin.gz	Linux and VMware ESX (Intel x86, Intel 64, and AMD64 platforms)
standalone_sansurfer5.0.1bnn_linux_install_ia64.bin.gz	Linux (Intel IA64 platforms)

NOTE: The *nn* in the preceding file names represents the build number of the current software release.

2 Requirements

This section defines the minimum hardware and software requirements.

2.1 Hardware Requirements

SANsurfer FC HBA Manager requires the following minimum hardware:

- ◆ One or more of the following QLogic adapters:
 - 2400/2500 Series Fibre Channel Adapters
 - 8100 Series Converged Network Adapters
- ◆ Single-processor or multiprocessor server or workstation:
 - Pentium III with 450MHz or greater for Windows XP Professional, Windows Vista, Windows 2000, Windows Server 2003, Windows Server 2008, Red Hat or SLES Linux, Solaris x86, or NetWare
 - Sun Ultra 60 for Solaris SPARC
 - Power Mac G5 1.8MHz, Intel-based Xserve or Mac Pro or greater with 512MB of memory
- ◆ Fibre Channel devices, such as disks and RAID subsystems. SANsurfer FC HBA Manager supports most Fibre Channel devices. For a complete list of devices that support failover, see the *QLogic SAN Interoperability Guide*, which you can download from the following QLogic Web page:

<http://www.qlogic.com/Interoperability/Pages/default.aspx>

NOTE: Tape devices are shown as part of the configuration, but are not fully supported. Only persistent binding and LUN masking are supported.

- ◆ 256 MB of physical RAM required to run SANsurfer FC HBA Manager; 512 MB recommended. Running with less memory can cause disk swapping, which severely affects performance.
- ◆ Video card capable of 256 colors and a screen resolution of 800 x 600 pixels required; 16K colors and 1024 x 768 pixels recommended
- ◆ About 150Mb disk space

2.2 Software Requirements

SANsurfer FC HBA Manager requires the following minimum software:

- ◆ Common desktop environment (CDE) to run SANsurfer FC HBA Manager (graphical user interface)
- ◆ QLogic 2400/2500 Series Fibre Channel drivers for your OS platform
- ◆ QLogic 8100 Series Converged Network Adapter driver for your OS platform

- ◆ TCP/IP protocol for Windows 2000, Windows 2003, or Windows 2008 remote management
- ◆ TCP/IP protocol for NetWare remote management
- ◆ JDK 1.5.0 on all platforms, except Linux PPC-64, Linux IA64, and Solaris SPARC
- ◆ Administrative privileges to perform management functions
- ◆ Internet Explorer (5.0 or later), or Netscape Communicator (5.0 or later)
- ◆ One of the operating systems identified in the [OS Support](#) section
- ◆ Disable user access control to run the agent service (qlremote) on Windows 2008 or Windows Vista

3 OS Support

SANsurfer FC HBA Manager runs on the following OS platforms:

Windows Operating Systems		
OS Name	OS Type	Hardware Platform
Windows 2000	32-bit	Intel x86, Intel 64, AMD64
Windows Server 2003	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64, AMD64
Windows Server 2008	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64, AMD64
Windows Server 2008 R2	64-bit	Intel IA64, Intel 64, AMD64
Windows XP Professional	32-bit, 64-bit	Intel x86, Intel 64, AMD64
Windows Vista	32-bit, 64-bit	Intel x86, Intel 64, AMD64
Solaris Operating Systems		
OS Name	OS Type	Hardware Platform
OpenSolaris	32-bit, 64-bit	Intel x86, Intel 64, AMD64
OpenSolaris	32-bit, 64-bit	64-bit SPARC
Solaris 10 x86	32-bit	Intel x86, Intel 64, AMD64
Solaris 8, 9, and 10 SPARC	32-bit, 64-bit	64-bit SPARC
NetWare Operating Systems		
OS Name	OS Type	Hardware Platform
NetWare 6.5	32-bit	Intel x86, Intel 64, AMD64
Apple Macintosh Operating Systems		
OS Name	OS Type	Hardware Platform
Linux Operating Systems		
OS Name	OS Type	Hardware Platform
Red Hat Enterprise Linux AS and ES 5.x	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64, AMD64
Red Hat Enterprise Linux AS and ES 4.x	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64, AMD64
Red Hat Enterprise Linux AS and ES 3.x	32-bit, 64-bit	Intel x86, Intel 64, AMD64
Novell SUSE Linux Enterprise Server 11 SPx	32-bit, 64-bit	Intel x86, AMD64
Novell SUSE Linux Enterprise Server 10	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64,

SPx		AMD64
Novell SUSE Linux Enterprise Server 9 SPx	32-bit, 64-bit	Intel x86, Intel IA64, Intel 64, AMD64
Novell SUSE Linux Enterprise Server 8 SPx	32-bit, 64-bit	Intel x86, Intel x86, AMD64
VMware Operating Systems		
OS Name	OS Type	Hardware Platform
VMware ESX/ESXi 4.1	64-bit	Intel x86, Intel 64, AMD64
VMware ESX/ESXi 4.0.x	64-bit	Intel x86, Intel 64, AMD64
VMware ESX/ESXi 3.5.x	32-bit	Intel x86, Intel 64, AMD64

NOTE: For specific service packs (SP) and OS updates, refer to the descriptions where this software version is posted on the QLogic Web site:

<http://driverdownloads.qlogic.com/>

4 Supported Features

SANsurfer FC HBA Manager provides the following features:

- ◆ Adapter asset and inventory management
- ◆ Automatic update management
- ◆ SAN (Adapter) configuration management
- ◆ Persistently bind targets
- ◆ Update the adapter parameters, Flash, and adapter driver.
- ◆ Adapter statistics
- ◆ Adapter diagnostics
- ◆ Application event and adapter event notifications
- ◆ Configuration Wizards
- ◆ N_Port ID Virtualization (NPIV)
- ◆ Quality of Service (QoS)

5 Using SANsurfer FC HBA Manager

This section provides procedures for installing, starting, and removing SANsurfer FC HBA Manager:

- ◆ [5.1 Installing SANsurfer FC HBA Manager](#)
- ◆ [5.2 Starting SANsurfer FC HBA Manager](#)
- ◆ [5.3 Removing SANsurfer FC HBA Manager](#)

For more detailed procedures, refer to the appropriate topics in the existing documentation, including the help system and the *SANsurfer FC HBA Manager User's Guide*.

5.1 Installing SANsurfer FC HBA Manager

NOTE: On a JS20 or JS21 blade that has a previous version of SANsurfer FC HBA Manager, make sure that the previous version of SANsurfer has been completely uninstalled before installing this new version. If you attempt to reinstall this update prior to uninstalling, the system will prompt you to remove the current version. If you exported the display using the DISPLAY= method, a hidden window with no focus appears behind the main installer

window. The installer appears to hang; however, it is waiting for an action to be taken on the hidden window.

To install SANsurfer FC HBA Manager:

1. Go to the QLogic Driver Downloads/Documentation Web page located here:
<http://driverdownloads.qlogic.com/>
2. Click **QLogic Products**.
3. On the **QLogic Products: Adapters** selection box, follow these steps:
 - a. In the first column, click the adapter type; **Fibre Channel Adapters** or **Converged Network Adapters**.
 - b. In the second column, click the adapter model number.
 - c. In the third column, click your specific operating system.
 - d. Click the **Go** button.
4. On the downloads page for the specified adapter and OS, under Management Tools, click the SANsurfer FC HBA Manager installation file.
5. Read the End User Software License Agreement, and then click **I Agree** to continue with the download.
6. Save the file to your local machine.
7. Run the installer and follow the on-screen instructions to complete the installation.

NOTE: The default SANsurfer FC HBA Manager operation password is *config*. To ensure that security is not compromised, change this password after installing the utility.

5.2 Starting SANsurfer FC HBA Manager

To start and run SANsurfer FC HBA Manager, select the product, and then follow the procedures for your specific operating system provided in the *SANsurfer FC HBA Manager User's Guide*, "Starting SANsurfer FC HBA Manager" section.

For Novell NetWare agent installation, when the SANsurfer installation completes, you must start the SANsurfer FC HBA Manager agent by doing one of the following:

- ◆ Reboot the NetWare server where the agent was installed.
- ◆ Issue the following commands on the NetWare server console where the agent resides:

```
RPCSTART
LOAD QLREMOTE.NLM
```

NOTE: This instruction assumes that you have already loaded the QLogic Novell NetWare HAM driver.

5.3 Removing SANsurfer FC HBA Manager

Be sure to exit the SANsurfer FC HBA Manager installer before you uninstall SANsurfer FC HBA Manager.

To remove SANsurfer FC HBA Manager, follow the procedures for your specific operating system provided in the *SANsurfer FC HBA Manager User's Guide*, "Uninstalling the SANsurfer" section.

NOTES:

- ◆ While uninstalling SANsurfer FC HBA Manager from a NetWare server, the server's prompt displays the following message:

```
Cannot stat sys:etc/rpcnet.cfg
```

You can ignore this message because it does not affect NetWare server operation.

- ◆ The uninstall process does not remove specific files and directories. You must manually delete these files.

6 Additional Notes

The following sections provide additional information according to operating system:

- ◆ [6.1 General \(Applies to All Operating Systems\)](#)
- ◆ [6.2 Windows](#)
- ◆ [6.3 Linux](#)
- ◆ [6.4 Solaris](#)
- ◆ [6.5 NetWare](#)
- ◆ [6.6 Mac OS X](#)
- ◆ [6.7 VMware ESX](#)

6.1 General (Applies to All Operating Systems)

6.1.1 Manually Mapping the Host Name to IP

SANsurfer FC HBA Manager does not allow connecting to the same host more than once; doing so causes issues with policies and wastes system resources. Consequently, all host IP addresses must resolve to a host name to allow the connection to complete.

If DNS is not used, you must edit the local host file on the system where you are running SANsurfer FC HBA Manager to manually map the host name to the static IP address.

The following shows the name and location of the host file for each OS:

- ◆ Windows:

```
<install drive>:\windows\system32\drivers\etc\hosts
```

- ◆ Linux:

```
/etc/hosts
```

- ◆ Mac OS X:

```
/etc/hosts
```

- ◆ Solaris:

```
/etc/hosts
```

- ◆ NetWare:

Windows System's NetWare client

```
<install drive>:\windows\system32\drivers\etc\hosts
```

- ◆ VMware:

```
/etc/hosts
```

6.1.2 Enabling Failover During Installation

During SANsurfer installation, the system prompts you whether to enable failover. Enabling failover notifies the SANsurfer utility how you want to create and validate the saved configurations.

Selecting **enable failover** does not cause the platform-specific failover driver to load automatically.

NOTE: Failover applies only to Linux hosts running the std driver.

6.1.3 Understanding the Displayed Hard Drive Size Under LUN Information

Two different measurement formats are used when displaying the hard drive size: decimal (GB) and binary (GB).

Both Linux and Windows show the correct number using their numeric format:

- ◆ Windows uses binary (numbers that are a power of 2)
- ◆ Linux uses decimal (numbers that are a power of 10)

For example:

- ◆ 2^{10} is 1,024. The closest decimal number is 10^3 or 1,000.
- ◆ 2^{20} is 1,048,576. The closest decimal number is 10^6 or 1,000,000.
- ◆ 2^{30} is 1,073,741,824. The closest decimal number is 10^9 or 1,000,000,000.

6.2 Windows

6.2.1 ConfigRequired Parameter

Under Windows, the ConfigRequired parameter in the registry dictates how devices are seen by the OS.

When ConfigRequired=0, both persistently-bound and new devices appear as enabled. This includes devices that might have been previously unconfigured using SANsurfer FC HBA Manager. You can set this parameter in the SANsurfer FC HBA Manager Driver Setting called **Present targets that are persistently bound plus any new target(s) found**.

When ConfigRequired=1, only persistently bound devices appear as configured. New devices or devices that were previously unconfigured using SANsurfer FC HBA Manager appear as unconfigured. You can set this parameter in the **Present target(s) that are persistently bound only** SANsurfer FC HBA Manager Driver Setting.

NOTE: For Windows drivers version 8.2.0.10 and later, you must set the ConfigRequired parameter to 1 to prevent the OS from seeing unconfigured entries.

6.3 Linux

6.3.1 Running SANsurfer FC HBA Manager and Connecting to a Remote Red Hat Linux Machine

When running SANsurfer FC HBA Manager and connecting to a remote Red Hat Linux machine, you must modify the `/etc/hosts` files on the two machines to allow asynchronous notifications from the agent to SANsurfer FC HBA Manager to operate properly.

To resolve this issue, create a new entry with the host IP address assigned to ethx. Modify the existing entry by moving the hostname from the localhost line to the newly-created line.

For example:

Initial:	127.0.0.1	localhost runner.domain.com
Modified:	127.0.0.1	localhost
	10.0.0.1	runner.domain.com

6.3.2 Secure Portmapper

For Linux 7.x and Advanced Server 2.1, SANsurfer FC HBA Manager includes a new secure portmapper. Add the statement `portmap:ALL` to the `/etc/hosts.allow` file for remote communication to work properly between the graphical user interface and agents.

6.3.3 Changing SANsurfer FC HBA Manager Password

To change the current SANsurfer FC HBA Manager password, you must install the shadow password option on your Linux machine.

For example, the following steps install the `etc/shadow` file on a Linux 7.2 machine:

1. Install the shadow-utils Red Hat Package Manager (rpm) from <Linux 7.2 CD-1>:
`/Red Hat/RPMS/shadow-utils-20000902-4.i386.rpm`
2. Go to the `/etc` file, and then issue the `pwconv` command to convert the passwords to shadow password format.

6.3.4 Non-Failover Version of Linux Driver

When using the non-failover version of the Linux driver, disable failover by launching the Fibre Channel Port Configuration window.

On the **File** menu, deselect the **Enable Failover Configuration (host)** option.

6.3.5 IA32 SANsurfer FC HBA Manager Installer

To run the IA32 SANsurfer FC HBA Manager installer under Linux x86_64 (Intel 64), you must install the IA32 X11 libraries. These libraries are included in the `xorg-x11-libs-<version>.EL rpm`. If the libraries are missing, the following exception appears:


```
java.lang.UnsatisfiedLinkError:  
/tmp/install.dir.4191/Linux/resource/jre/lib/i386/xawt/libmawt.so:  
libXext.so.6: cannot open shared object file: No such file or directory
```

6.3.6 SANsurfer FC HBA Manager Installer on Red Hat 5

To run the SANsurfer installer on a Red Hat 5 Linux machine when using the default installation, you must install the following rpms:

```
compat-libstdc++-33-3.2.3-61.<arch>.rpm  
libXp-1.0.0-8.<arch>.rpm
```

NOTES:

- ◆ On x86_64 machines, load 32-bit libs.
- ◆ On ppc64 Linux machines, load both ppc64/ppc rpms.

6.3.7 Manually Starting IOCTL Module on Red Hat 4.x Systems

On Red Hat 4.x systems, an IOCTL module is used to communicate between SANsurfer and the driver. If you are using an earlier version of SANsurfer (prior to 5.0.1b38), you must manually start the IOCTL module as follows:

1. After SANsurfer installation completes and before starting SANsurfer, issue the following command:

```
# modprobe -a qiocltmod
```

2. If qlremote is not running, you might need to start it:
 - a. To determine if qlremote is running, issue the following command:

```
# ps -C qlremote
```

If there is no output from the command, qlremote is not running.

- b. To start qlremote, issue the following command:

```
# /usr/local/bin/qlremote
```

6.4 Solaris

6.4.1 Target Persistent Binding

On Solaris, the `qla_mp_config_required` parameter in the configuration file dictates how the OS sees devices.

The `qla_mp_config_required` flag in the QLogic configuration file (`qla2x00.conf`) controls persistent binding of targets. The default configuration file that comes with the QLogic driver does not have an entry for this flag. An entry for this flag appears in the configuration file only when saving the target configuration data with SANsurfer FC HBA Manager.

By default, SANsurfer FC HBA Manager sets the `qla_mp_config_required` flag to 1. When this flag is set to 1, only target devices that are persistently bound in the configuration file are reported to the OS. The driver does not report any new or unconfigured targets to the OS. In other words, the default behavior for this flag is **persistent targets only**.

When the `qla_mp_config_required` flag is set to 0, the driver reports both persistently-bound and new targets to the OS. This is equivalent to **persistent plus new**.

NOTE: After saving the `qla_mp_config_required` parameter to the configuration file, the driver ignores the old English-style persistent binding entries. For example:

```
hba<#>-SCSI-target-id-<#>-fibre-channel
    -port-name="<device WWPN>" ;
```

6.5 NetWare

6.5.1 Operating SANsurfer FC HBA Manager on NetWare 5.x and 6.x Servers

Operating SANsurfer FC HBA Manager on NetWare 5.x and 6.x servers requires the IPX/SPX network protocol.

6.5.2 Operating SANsurfer FC HBA Manager on NetWare

To run SANsurfer FC HBA Manager on NetWare, you must modify the `FILES` and `BUFFERS` parameters in the `CONFIG.SYS` file (located on the NetWare server boot drive) as shown in the following example:

```
FILES    = 100
BUFFERS  = 50
```

6.6 Mac OS X

6.6.1 Persistent Binding

Bind By Port ID is not supported. The default driver setting is **Bind By the WWPN**.

6.7 VMware ESX

6.7.1 Operating SANsurfer FC HBA Manager on ESX 3.5 Servers

Flashing and updating NVRAM has been disabled for QLE25xx Adapters on ESX 3.5U2.

7 Known Issues and Workarounds

Known Issue	Workaround
File Choosers: Periodically, the File Choosers in SANsurfer FC HBA Manager do not respond when trying to traverse the file system by double-clicking the icons.	Select the directory and click the Open button to traverse the directory or open a specific file.
Port Incorrectly Displayed in Adapter in Topology: Depending on specific switch zoning configurations, an attached port may appear in the Topology as an adapter when it is not actually an adapter.	None. For your information only.

Known Issue	Workaround
Administrator Account Password: The administrator/admin enabled account password must not be blank when changing the SANsurfer FC HBA Manager utility password.	This is a Windows security restriction.
Running SANsurfer FC HBA Manager on an Itanium IA64 System: When running SANsurfer FC HBA Manager on an Itanium I system, the utility performance is hindered due to a Java compatibility issue. This issue is not seen with Itanium II systems.	None. For your information only.
Driver Parameters Revert to Their Default Values: When updating the Windows driver using SANsurfer FC HBA Manager, the driver parameters revert to their default values, Present targets that are persistently bound plus any new target(s) found.	Bind by world wide port name (WWPN).
Unsigned Windows Driver Update: When performing a driver update on unsigned Windows drivers, the OS opens a confirm dialog box. This appears in front of the utility (focus) when performing the update on the localhost if the interface is connected to the "localhost" (non-agent). When updating a driver on the localhost, if SANsurfer uses the hostname or IP to connect, the confirm dialog box appears behind the interface (no focus).	If you are performing a driver update on the localhost, make sure to connect as "localhost".
Portmapper Conflict: There is a Microsoft portmapper conflict if Microsoft Windows Services for UNIX is installed after SANsurfer FC HBA Manager.	Perform the following steps: <ol style="list-style-type: none"> 1. Temporarily uninstall SANsurfer FC HBA Manager. 2. Install Microsoft Windows Services for UNIX. 3. Re-install SANsurfer FC HBA Manager.
Connecting to localhost uses DLL or Shared Library (Windows or Linux IA32): Connecting to a localhost on a Windows IA32 or Linux IA32 machine requires using a DLL or shared library instead of the agent. There is no communication between the localhost version and the agent.	Be sure to use either the localhost or the agent, but not both at the same time.
HBA Parameters and Templates and Flash Updates on 8Gb Adapters with Windows Server 2008 Inbox Driver Version 9.1.4.5 or 9.1.4.6: SANsurfer FC HBA Manager does not support HBA parameters and Flash updates on 8Gb adapters if running the specified Windows Server 2008 inbox driver.	You must update the host to the latest QLogic driver.
"Warning: Cannot convert string "x" to type VirtualBinding" (Linux): The message, Warning: Cannot convert string "x" to type VirtualBinding appears on Linux when running either SANsurfer FC HBA Manager or the uninstall process. This is a Java issue where the window manager has already specified key mapping.	Ignore these warnings because they do not affect the utility's operation.

Known Issue	Workaround
Information Left After Deleting Persistent Configuration (2.4 Kernel OS only): Deleting the persistent configuration does not remove the options <code>qla2x00 ConfigRequired=1 ql2xuseextopts=1</code> string from the <code>/etc/modules.conf</code> file.	You must manually edit this file to fully delete all persistent data.
Using the Hot Swap and Plug Features: The hot swap feature does not work on QLogic Fibre Channel Adapters.	Stop the qlremote agent. For details, see the <i>SANsurfer FC HBA Manager User's Guide</i> , "Troubleshooting" chapter.
Stale Semaphore Left Behind (Solaris): During normal operation of SANsurfer FC HBA Manager on Solaris, a stale semaphore may be left behind, causing both SANsurfer FC HBA Manager and SANsurfer FC HBA CLI to fail on load.	Manually remove the following two files: <code>/var/tmp/.SEMD</code> <code>/var/tmp/.SEML</code>
FCode and BIOS Update Not Available with Sun-branded 2Gb Adapters: SANsurfer FC HBA Manager does not support FCode/BIOS update with Sun-branded 2Gb adapters.	None. For your information only.
Fixing Stack Issue with Limit: When starting SANsurfer on Solaris, the following message may appear: Stack size of <x> Kb exceeds current limit of <x> Kb. (Stack sizes are rounded up to a multiple of the system page size.) See <code>limit(1)</code> to increase the stack size limit.	None. For your information only.
Mac OS X Bug on SANsurfer FC HBA Manager Installer: A Mac OS X bug affects the SANsurfer installer on OS X 10.3.9 systems with the QuickTime 7.0.4 upgrade. This appears to only affect systems running version 10.3.9, not version 10.4.	Revert to QuickTime 7.0.1 through a reinstall available from Apple on the Support/Downloads page.
SANsurfer FC HBA Manager Does Not Start After Updating to Mac OS X 10.3.9: After updating to Mac OS X 10.3.9, SANsurfer does not install or start.	SANsurfer FC HBA Manager is a Java utility and is affected by this Java issue. Review the following article: http://docs.info.apple.com/article.html?artnum=301380
Windows Server 2008 or Windows Vista localhost Limits: SANsurfer does not see adapters when connecting to a localhost when running Windows Server 2008 or Windows Vista.	When running SANsurfer on Windows Server 2008/Vista, you must disable UAC (User Access Control) before using localhost connects.

8 Contacting Support

Please feel free to contact your QLogic approved reseller or QLogic Technical Support at any phase of integration for assistance. QLogic Technical Support can be reached by the following methods:

Web: <http://support.qlogic.com>

E-mail: support@qlogic.com

[Go to Top](#)



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